
APPENDIX B

LAND USE CLASSIFICATION SYSTEM

The Land Use Classification System, presented below, is an adaptation of the system set forth in the Scituate Reservoir Watershed Management Plan (RIDOP 1990). Where appropriate, references are made to sections of the plan that provide additional information relating to the nature and implementation of specific mitigative measures.

CLASS A - MINIMAL RISK

These land uses have minimal potential to cause surface (or groundwater) contamination problems. Thus, they are the most desirable in terms of providing protection to a surface drinking water supply.

A.1 Open Space

- Lands owned and managed by a water utility for a public drinking supply (no passive recreation).
- Publicly owned open space (forest, shrub, or abandoned field cover types) with passive recreation permitted but no permanent facilities (e.g., restrooms, bath houses, etc.).
- Privately owned and managed wildlife refuges.
- Privately owned and managed forest lands.

Mitigative Measures

1. Require land-clearing operations to comply with best management practices (BMPs) as described in the R.I. Soil Erosion and Sediment Control Handbook (RIDEM 1989).
2. Maintain undisturbed vegetated buffers, at a minimum of 100 feet, between cleared areas and any body of water.
3. Prohibit below-ground fuel storage.

CLASS B - SLIGHT RISK

These land uses are potential contamination sources, but their impacts can be mitigated if development standards are instituted. Since these uses provide substantial economic returns to landowners without posing a major risk to drinking water supplies, it would be unreasonable to prohibit these uses within the entire watershed.

B.1 Low Density Residential

- Two acres or more per dwelling unit.

Mitigative Measures

1. Require undisturbed septic system setbacks from the groundwater table and all surface waters (see section 4.2 of the Scituate Plan).
2. Require vegetated buffer strips (see section 4.2 of the Scituate Plan).
3. Establish mandatory septic system maintenance programs (see WasteWater Management Districts -- A Starting Point (RIDOP 1987)).
4. Prohibit below-ground fuel storage, and require BMPs for above-ground fuel storage (see Oil Pollution Control Regulations (RIDEM 1990b)).
5. Establish erosion and stormwater runoff controls (see section 2.2.2 of the Scituate Plan).
6. Set limits for impervious areas (no greater than 10 percent).
7. Require fertilizer/pesticide BMPs (see sections 2.2.9 and 2.2.10 of the Scituate Plan).
8. Develop educational programs on hazardous materials, septic systems, irrigation, fertilizers and pesticides. (RIDEM is a good source for brochures on these topics).

B.2 Field Crops

- Permanent pasture
- Hay crops
- Turf

B.3 Utility Rights-of-Way

B.4 Golf Courses

Mitigative Measures

1. Require BMPs for mowing, vegetative cover establishment and maintenance, fertilizing, and pesticide/herbicide use. BMPs should be developed with assistance from the USDA Natural Resources Conservation Service (NRCS), URI Cooperative Extension Program, and local Conservation Districts (see section 2.2.9 of the Scituate Plan).
2. Require vegetated buffer strips and controlled outlet basins.
3. Prohibit below-ground fuel storage, and require BMPs for above-ground fuel storage (see Oil Pollution Control Regulations (RIDEM 1990b)).

B.5 Developed Recreation

- Developed active recreation sites with permanent structures (e.g., rest rooms), including public parks and playfields, but excluding golf courses.
- Rod and gun clubs and similar uses that include sanitary facilities.

Mitigative Measures

1. Require land-clearing operations to comply with BMPs as described in the R.I. Soil Erosion and Sediment Control Handbook (RIDEM 1989).
2. Maintain undisturbed vegetated buffers, at a minimum of 100 feet, between cleared areas and any body of water.
3. Require contained pump-out, composting, or waterless toilets, where appropriate.
4. Prohibit below-ground fuel storage.

CLASS C - MODERATE RISK

The contaminants generated by these land uses are similar in nature to those in Category B. However, the density and/or intensity of use can contribute greater pollutant loadings to surface (and ground) waters. These uses will therefore require regulatory oversight and strict adherence to applicable mitigative measures to prevent contamination problems.

C.1 Agricultural Production

- Livestock - dairy, poultry, beef cattle, etc.
- Nurseries and orchards.
- Corn
- Fruit and vegetable crops.

Mitigative Measures

Develop site-specific BMPs with assistance from the NRCS and URI Cooperative Extension. Require and enforce applicable BMPs (see section 2.23 of the Scituate Plan.).

C.2 Medium Density Residential

- Between one-quarter and two acres per dwelling unit.

Mitigative Measures

Prohibit new development at this density within the watershed. Existing areas should be a high priority for septic system maintenance programs and for educational programs on hazardous materials, fertilizers, pesticides, and water conservation. Lots of record should be subject to applicable mitigative measures for low density residential development (B.1).

C.3 Low Intensity Commercial and Institutional

- Churches, government offices.
- Professional office buildings.
- Restaurants.
- Food and convenience stores with parking lots less than one acre in size.
- Other such uses that would not produce wastewater discharges or stormwater runoff at a higher level than would be expected from medium density residential development.

Mitigative Measures

The primary concerns with these uses are stormwater runoff generated from parking lots and other impervious surfaces, and large-capacity septic systems. Development standards for stormwater runoff abatement and septic system setbacks and maintenance must be complied with prior to permitting this type of development (see sections 2.2.1 and 2.2.2 of the Scituate Plan). The other mitigative measures cited for Category B.1 land uses also apply.

CLASS D - HIGH RISK

Land uses within this category can pose substantial risks to a drinking water supply due to the high density and activity levels associated with them. There is always a threat of spills, leaks, or unauthorized discharges of domestic wastewater or hazardous materials associated with these uses. For example, wastewater discharges from high schools can contain toxic chemicals from laboratories or degreasing agents from automotive and shop classes. Some of these uses (D.1) provide important community services and thus may be difficult to prohibit in the watershed.

D.1 Institutional

- Schools, colleges.
- Hospitals.
- Medical offices.
- Nursing homes.

D.2 High Density Residential

- One-quarter acre or less per dwelling unit

D.3 Commercial Uses

- Shopping centers with parking lots greater than one acre in size.
- Junk and salvage yards.
- Automobile dealers.
- Appliance repair shops.
- Motels and hotels.
- Car washes.
- Sand and gravel mining.

D.4 Light Industrial

- Any process that does not require a wastewater discharge other than domestic sewage and does not use, store, or dispose of significant quantities of hazardous materials.

Mitigative Measures

1. All of these uses should be located outside of the watershed if possible.
2. Any use that must be located within the watershed should be subjected to a site plan review process to determine the most appropriate mitigative measures. The mitigative measures listed for Category B.1 land uses should be considered as a starting point.
3. Development standards such as specific stormwater runoff controls, limits on impervious surfaces, set-backs from waterbodies, and hazardous material controls need to be established for these uses. The burden to prove that any use will not contaminate surface (or ground) waters must be the responsibility of the applicant.

CLASS E - SEVERE RISK

These uses should not be permitted in the watershed since they have the highest potential to contaminate water quality. In addition, these uses generate, store, or produce hazardous materials/wastes that can be leaked, spilled, or washed into surface (or ground) waters.

E.1 Any use that would generate a wastewater discharge other than domestic sewage

- Photo processors.
- Furniture strippers.
- Laboratories.
- Dry Cleaners.
- Laundromats.

E.2 Any use that would store, use, or process a hazardous material

- Gas stations.
- Landfills.
- Oil distributors.
- Printers.
- Fertilizer, pesticide, herbicide warehouses.
- Auto body and repair shops.
- Airports.

Mitigative Measures

1. Municipal zoning ordinances should prohibit these uses in the watershed.
2. If these uses are to be allowed, the mitigative measures recommended for Category B.1 land uses should apply as a starting point. In addition, the applicant must prove that a proposed use will not impair water quality.